

Integrated Benchmarking & Energy & Water Management Tool for the Wine Industry

GOALS

- Develop a benchmarking and energy efficiency screening tool to help wineries determine their energy efficiency. This process based benchmarking module will calculate an energy efficiency index (EEI) that allows comparison of different wineries and a specific winery over time.
- Develop a similar water efficiency index (WEI) for bench marking and water use efficiency screening

PROJECT DESCRIPTION

The project involves a detailed analysis of energy and water flows in winery operation, assessment of integration issues between different processes, development of an easy to use energy and water use model, and identification of potential energy and water use improvement measures. The project will develop an integrated energy and water bench marking and efficiency screening tool. This tool will be field tested at several wineries.



Wine Barrels Stored in a Cellar

SITE BENEFIT

Benchmarking provides a convenient way to compare energy and water intensity of plants while accounting for structural differences among plants. It will help the host winery identify opportunities for improving energy and water use efficiency.

INDUSTRY BENEFIT

In 2001, the wine industry in California consumed 406 million kWh of electricity and 23 million therms of thermal energy. The peak load is estimated at 144 MW. About 20% in potential savings can be expected based on audits at various wineries. Achieving these savings amount to a reduction of 75 million kWh of electricity and could save \$6 million to the wineries.

FUNDING AMOUNT

Project Cost: \$222,000

Public Interest Energy Research Program Contribution \$202,000

FOR MORE INFORMATION

Jatal D. Mannapperuma

CIFAR, University of California, Davis
(530) 752-8559

jdmannapperum@ucdavis.edu

Pramod Kulkarni

California Energy Commission
(916) 654-4637

pkulkarn@energy.state.ca.gov

Ernst Worrel

Lawrence Berkeley National Laboratory
(510) 486-6794

eworrell@lbl.gov